CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W No.8/HVMK/WMM/Gradation/2016-17 25.07.2016

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. H.V. Madan Kumar,**
113/A, 80 feet Road, Ashwathanagara, RMV 2ndstage, Bangalore - 94.

Name of Work : Patching pot holes in Main and Cross Roads of Balaji Layout, Maruthinagara, BB Nagara, Sahakaranagara B, C and D Block, Shanthinikethana and surrounding areas in Ward No. 8, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/223/2015-16 Dated: 26.02.2016

Date of Testing : 25.07.2016

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): 8835

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	290	290	3.3	96.7	95-100
22.4	3065	3355	38.0	62.0	60-80
11.2	1475	4830	54.7	45.3	40-60
4.75	1260	6090	68.9	31.1	25-40
2.36	935	7025	79.5	20.5	15-30
0.600	720	7745	87.7	12.3	8-22
0.075	645	8390	95.0	5.0	0-8

Assistant Executive Engineer, Kodigehalli Sub Division, Yelehanka Zone, B.B.M.P., Bangalore.

Note:

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

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Job No.: CTCE/BBMP/W No.8/HVMK/WMM/AIV/2016-17 25.07.2016

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Mr. H.V. Madan Kumar,** # 113/A, 80 feet Road, Ashwathanagara, RMV 2ndstage, Bangalore - 94.
Name of the Work	Patching pot holes in Main and Cross Roads of Balaji Layout, Maruthinagara, BB Nagara, Sahakaranagara B, C and D Block, Shanthinikethana and surrounding areas in Ward No. 8, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/223/2015-16 Dated: 26.02.2016
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	25.07.2016

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	381	385	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	300	
4	Aggregate Impact value = percent fines	21.52	22.08	
	$100^* (W_2/W_1)\%$			21.80

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/W No.8/HVMK/WMM/S-T/2016-17 25.07.2016

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Mr. H.V. Madan Kumar,** # 113/A, 80 feet Road, Ashwathanagara, RMV 2ndstage, Bangalore - 94.
Name of Work	Patching pot holes in Main and Cross Roads of Balaji Layout, Maruthinagara, BB Nagara, Sahakaranagara B, C and D Block, Shanthinikethana and surrounding areas in Ward No. 8, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/223/2015-16 Dated: 26.02.2016
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	25.07.2016

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **11.29%**

Elongation Index = **13.57%**

Result : Combined Flakiness & Elongation index 24.86%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No: CTCE/BBMP/W No.8/HVMK/BC/Bitumen/2016-17 29.07.2016

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
AGENCY	**Mr. H.V. Madan Kumar,** # 113/A, 80 feet Road, Ashwathanagara, RMV 2nd Stage, Bangalore - 94.
NAME OF THE WORK	Patching pot holes in Main and Cross Roads of Balaji Layout, Maruthinagara, BB Nagara, Sahakaranagara B, C and D Block, Shanthinikethana and surrounding areas in Ward No. 8, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/223/2015-16 Dated: 26.02.2016
SAMPLE I/D	Roads in Ward No. 08, BBMP
DATE OF TESTING	29.07.2016

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	469.5	470.5
3. Weight of Asphalt and Mineral matter Extracted, g	30.5	29.5
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	30.5	29.50
7. Bitumen content in %	6.10	5.90
8. Average	**6.00**	

GRADATION AFTER EXTRACTION

TABLE - 1

SIEVE SIZE	Percent Passing, %		JOBMIX
mm	Sample 1	Sample 2	Gradation
19	100.00	100.00	100
13.2	93.65	94.75	79-100
9.5	78.25	79.20	70-88
4.75	65.30	59.70	53-71
2.36	55.25	48.65	42-58
1.18	42.10	41.32	34-48
0.6	29.35	32.10	26-38
0.3	26.15	22.55	18-28
0.15	15.25	14.15	12-20
0.075	5.85	6.30	4-10

Assistant Executive Engineer, Kodigehalli Sub Division, Yelahanka Zone, B.B.M.P., Bangalore.

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